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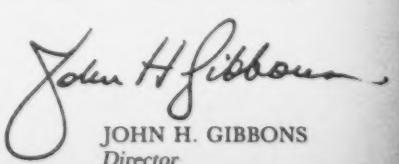
Preface

The Office of Technology Assessment (OTA) was established by Congress to provide congressional committees with analyses of emerging, difficult, and often highly technical issues. Governed by a 12-member bipartisan congressional board—six Senators and six Representatives—OTA provides a variety of services to the Senate and House on a broad range of issues. Services include briefings, testimony, and special reports on major assessments—some requiring more than 2 years to complete. OTA explores complex issues involving science and technology, helping Congress to resolve uncertainties and conflicting claims, identifying alternative policy options, and providing foresight or early alert to new developments that could have important implications for future Federal policy. OTA does not advocate particular policies or actions, but points out their pros and cons, sorts out the facts, and provides opinions.

OTA's multidisciplinary staff plans, directs, and drafts all assessments. It draws extensively on the broad technical and professional resources of the private sector, including the academic community, public interest groups, State and local government, and the citizenry at large.

The publications listed in this brochure are the result of various assessments and analyses requested by the committees of Congress. This listing, organized by OTA Program area, will be revised periodically as further reports are published by OTA.



JOHN H. GIBBONS
Director

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OTA Reports are the principal documentation of formal assessment projects. These projects are approved in advance by the Technology Assessment Board. **Special Reports** are relatively short OTA reports on topics of direct relevance to specific legislation, oversight, or other congressional action. Both types of documents are expected to present policy options and findings with considerable policy significance. The Technology Assessment Board has the opportunity to review Reports and Special Reports before release but this does not necessarily imply endorsement of the results by the Board or its individual members.

OTA Technical Memoranda are issued at the request of committees or Members of Congress on specific technical subjects that are relevant to current congressional legislation or oversight.

OTA Background Papers, Case Studies, Workshop Proceedings, and Staff Papers are documents that contain information that supplements formal OTA assessments or is an outcome of internal exploratory planning and evaluation. The material is usually not of immediate policy interest such as is contained in an OTA Report, Special Report, or Technical Memorandum, nor does it present options for Congress to consider.

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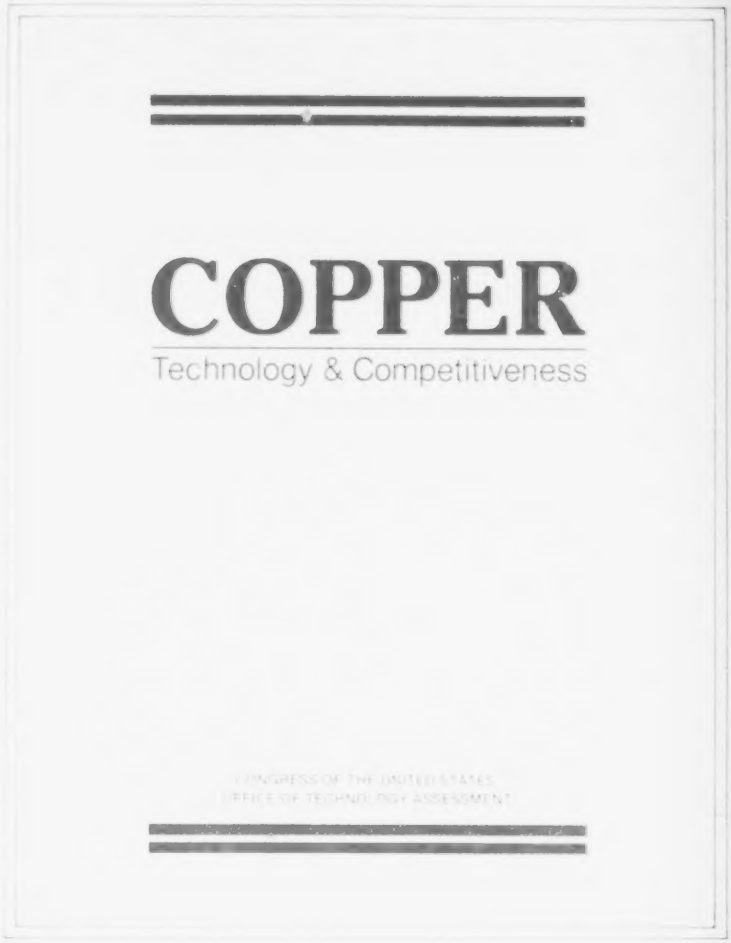
Changing Energy Structure of U.S. Industry. The U.S. economy uses roughly the same amount of energy today as it did 15 years ago, even though the size of the GNP has increased in real terms by over 40 percent. This background paper analyzes this decline in energy intensity by categorizing changes into three broad areas: 1) increased efficiency in the use of energy, 2) the substitution of less energy-intensive materials for more energy-intensive ones in production processes, and 3) shifts in demand towards final products that are less energy-intensive. Background Paper. In progress.

Electric Power—Wheeling & Dealing: Technological Considerations for Increasing Competition. Explores the technical requirements for introducing greater competition into the operation and planning of the electric power industry, with particular emphasis on the reliability and operation of the transmission network. E-409. In progress.

Power Frequency and Electromagnetic Fields: Exposure, Effects, Research, and Regulation—Background Paper. Describes exposures to electric and magnetic fields from power systems and other sources; reviews existing scientific evidence on the biological effects of these fields; presents a history of research support and of regulatory activity; and discusses problems and alternatives in regulatory action. BP-E-53. In progress.



Oil Production in the Arctic National Wildlife Refuge: The Technology and the Alaskan Oil Context. Examines projections for future Alaskan oil production and evaluates the potential for shifts in future production rates with technology development and changing economic conditions and regulatory requirements; the evolution of technology for Arctic onshore and offshore oil exploration, development, production, and transportation over the past 15 years; project how the state-of-the-art might evolve over the next several decades; and evaluates how technology changes might alter the production potential of North Slope oilfields. The study also defines the state-of-the-art technology that is available for use at the Refuge and projects potential changes in this technology that can affect both production and environmental impacts. E-394, 2/89; 136 p.

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Copper: Technology and Competitiveness. Assesses the status of copper markets, including recent supply and demand trends and the extent to which they have been affected by substitutions; identifies possible future market trends; describes the technological and management state-of-the-art in copper mining, smelting, and refining, and the cost shares for each sector; assesses advanced technologies and managerial strategies with the potential for reducing costs in each sector; and identifies options that could be implemented by government or private entities to revitalize the copper industry. E-367, 9/88; 284 p.

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U.S. Oil Production: The Effect of Low Oil Prices—Special Report. Examines issues that influence the future direction of U.S. oil production. These issues include: the expected profitability of new investments in drilling; the potential of new oil exploration, development, and production technologies; the nature of the remaining oil resource base; and structural changes in the oil industry. E-348, 9/87; 144 p.

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New Structural Materials Technologies: Opportunities for the Use of Advanced Ceramics and Composites—A Technical Memorandum. Analyzes and examines the military and commercial opportunities presented by new structural materials (i.e., ceramics, polymers, metals, or composites) and outlines the Federal research and development associated with such products. TM-E-32, 9/86; 52 p.

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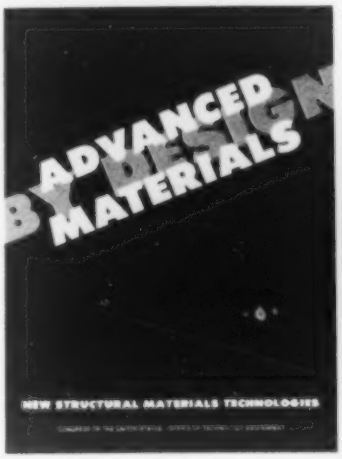

Advanced Materials by Design: New Structural Materials Technologies. Examines opportunities for high-technology ceramics and polymer composites over the next 15 to 25 years; determines the principal technical and related problems that need to be overcome if timely expansion of the commercial use of these materials takes place; and analyzes the broad implications of these high-technology materials to future U.S. economic growth and competitiveness. E-351, 6/88; 344 p.

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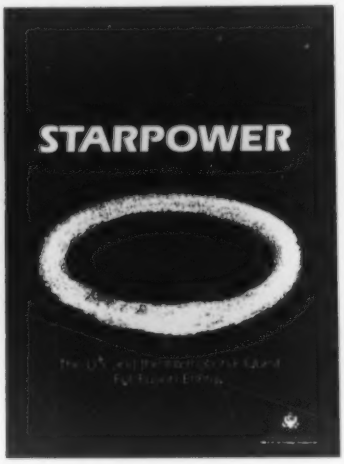

Starpower: The U.S. and the International Quest for Fusion Energy. Examines how the fusion program serves at satisfying a number of different national goals—long-term energy supply, stimulation of technology, international scientific prestige, and how the fusion program could be structured, including the role of international cooperation, once the program's goals and priorities have been decided. E-338, 10/87; 250 p.

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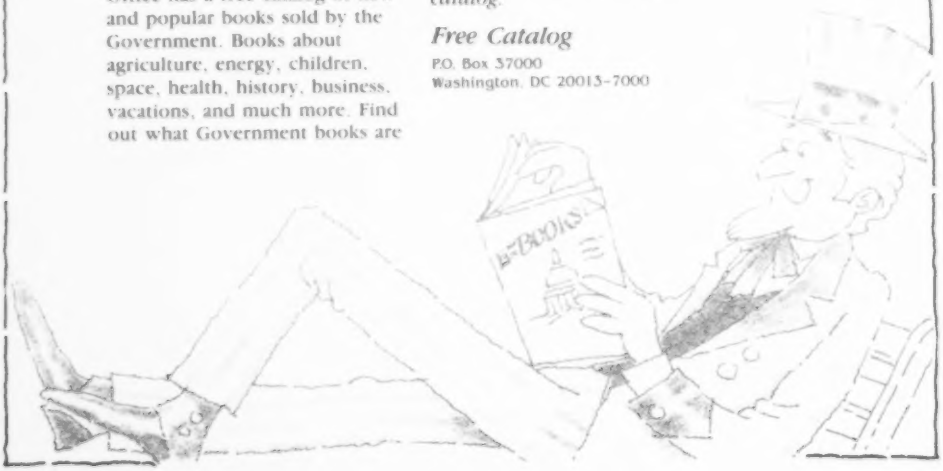

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Technologies for Prehistoric and Historic Preservation

Technologies for Prehistoric and Historic Preservation. Focuses on technologies for locating, identifying, surveying, and evaluating historic structures and sites for their contents, including archaeological sites; preserving buildings, structures, and landscapes; and measuring the effect of changes in the environment on historic structures, artifacts, paintings, books, and other artifacts. E-319, 9/86; 212 p.

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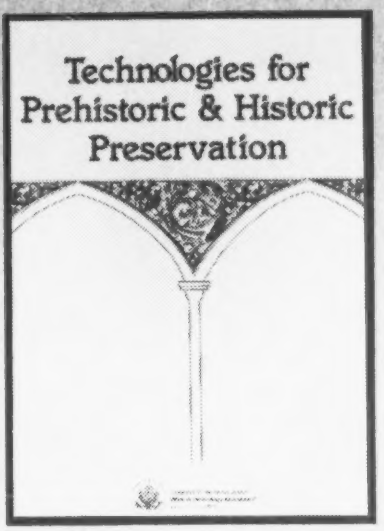

Technologies for Preservation of Prehistoric and Historic Landscapes—Background Paper. Identifies and examines the principal technological issues related to the identification and preservation of prehistoric and historic landscapes. BP-E-44, 7/87; 60 p.

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Technologies for Underwater Archaeology and Maritime Preservation—Background Paper. Examines issues concerning the preservation of submerged and maritime historical resources. BP-E-37, 10/87; 64 p.

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New Electric Power Technologies: Problems and Prospects for the 1990s. Examines the development of a series of new technologies encouraged by the Federal Government that offer greater flexibility to utilities. Technologies to be examined include: utility-controlled load management; fuel cells; advanced coal- and gas-combustion; photovoltaics; and solar thermal, wind, and geothermal power. E-246, 7/85; 340 p.

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U.S. Natural Gas Availability: Gas Supply Through the Year 2000. Analyzes the key technical and physical parameters that determine the resource base, production rates, and costs of all categories of below-ground natural gas; critically reviews current estimates of the resource base, estimates the potential production rates of natural gas, and the uncertainties in these estimates; and assesses future technology trends and R&D needs that may accelerate these trends. E-245, 2/85: 260 p.

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U.S. Vulnerability to an Oil Import Curtailment: The Oil Replacement Capability. Provides an analysis of the technical potential for replacing large quantities of oil in the United States over a 5-year period by fuel substitution and conservation in the event of an extended oil supply shortfall and price rise; analyzes the macro-economic consequences of the shortfall and various rates of oil replacement by the technologies. E-243, 9/84; 160 p.

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Nuclear Power in an Age of Uncertainty. Examines the future of nuclear power in this country; describes the current technological, economic, financial, public perception, and regulatory problems facing the domestic nuclear industry; identifies how various changes might affect the industry's future. E-216, 2/84; 296 p.

NTIS order #PB 84-183 953/AS
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Industrial Energy Use. Examines energy use in the industrial sector in general and in the largest energy-using industries—pulp and paper, petroleum refining, chemicals, and steel. E-198, 6/83; 176 p.

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Energy Efficiency of Buildings in Cities (E-168)‡	PB 82-200 346
Energy From Biological Processes (E-124)‡	PB 80-211 477
Energy From Biological Processes Vol. I (E-128)	PB 81-134 769
Enhanced Oil Recovery Potential in the United States (E-59)	PB 276 594
Environmental Protection in the Federal Coal Leasing Program (E-237)	PB 84-222 413/AS
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A Technology Assessment of Coal Slurry Pipelines Vol. II, Part 2	PB 278 677
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Boswell, *Life of Johnson* (1775)

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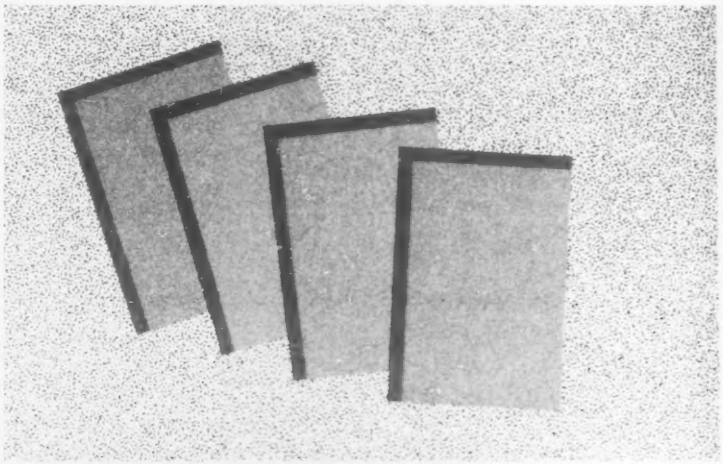
Technology, Innovation, and U.S. Trade. Examines and assesses how changes in the competitiveness of U.S. manufacturing industries affect the ability of the U.S. economy to create new jobs in various sectors; and how technology, coupled with strategic responses by U.S. firms could reverse erosion of our market shares. Identifies possible U.S. Government policies that could stimulate U.S. producers to invest in technologies for development and commercialization of new products, policies that could aid industrial and technological development in industrializing nations without unduly harming U.S. manufacturers, and trade policies that go beyond traditional free-trade or protection arguments. In progress.



Paying the Bill: Manufacturing and America's Trade Deficit—Special Report. Analyzes the causes of deterioration in America's trade performance and examines the importance of U.S. manufacturing in helping the Nation improve its position in international trade. ITE-390, 6/88; 92 p.

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Commercializing High-Temperature Superconductivity—Report. Focuses on the adequacy of U.S. programs to support commercialization of superconductivity. ITE-388, 8/88; 188 p.

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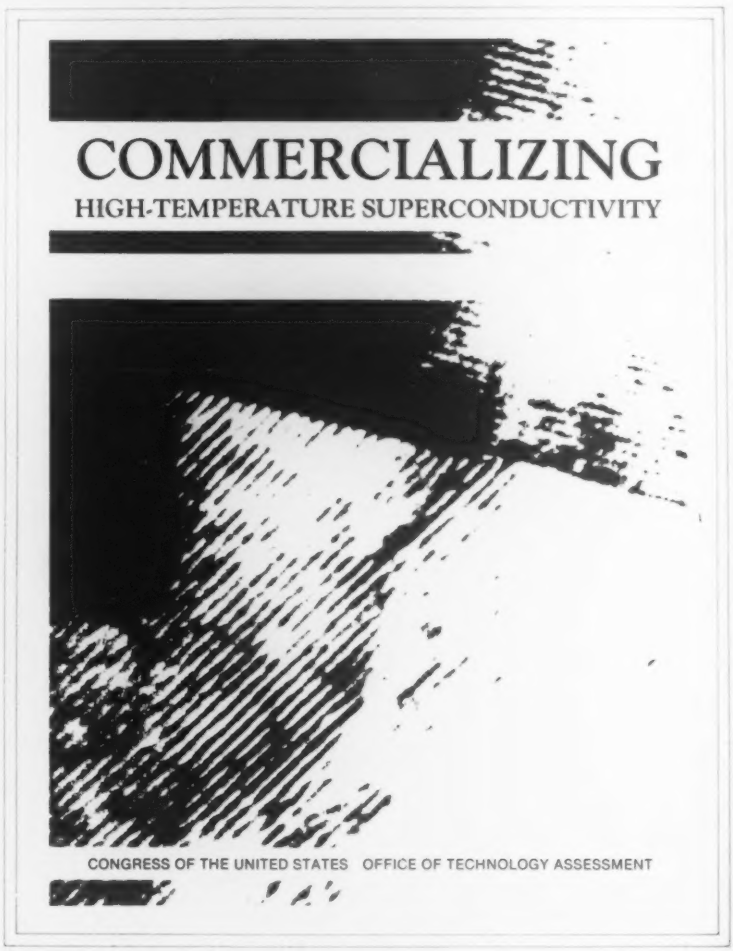
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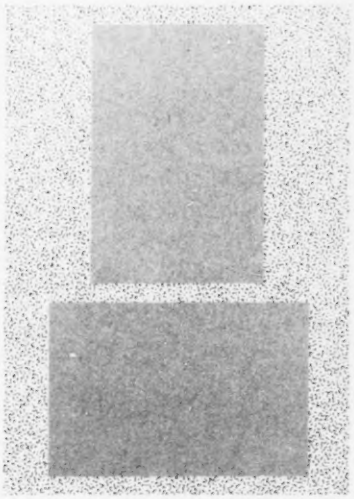

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Hazardous Waste

Assessing Contractor Use in Superfund—Background Paper. Describes how the Superfund program uses contractors, and what their role is relative to that of EPA staff. The history and extent of contractor use in Superfund are described, as well as why the original reasons for EPA's heavy dependence on contractors may no longer be valid. The paper also gives some ideas for improving the environmental performance and economic efficiency of Superfund over the long term. BP-ITE-51, 1/89; 52 p.

GPO stock #052-003-01147-6 **$2.50**

Are We Cleaning Up? 10 Superfund Case Studies—Special Report. Analyzes 10 case studies of recent Superfund decisions, based on surveying 100 recent cleanup decisions, that represents a broad range of contamination problems and cleanup technologies. ITE-362, 6/88; 84 p.

GPO stock #052-003-01122-1 **$3.75**
NTIS order #PB 89-139 018/AS

Serious Reduction of Hazardous Waste. Examines and reviews the technical options to substantially reduce the amount and hazardous nature of industrial hazardous waste; identifies and analyzes current efforts in waste reduction and examines the full range of technical, economic, and institutional impediments facing industry in these efforts; analyzes Federal and State policies and programs which affect waste and nonregulatory options. ITE-317, 9/86; 264 p.

Free summary available.
NTIS order #PB 87-139 622/AS

From Pollution to Prevention: A Progress Report on Waste Reduction—Special Report. Examines options for reducing the generation of all hazardous wastes and environmental pollutants; the effectiveness of Federal actions taken so far; and summarizes what industry and State and local governments have done to implement waste reduction. ITE-347, 6/87; 64 p.

GPO stock #052-003-01071-2 **$2.75**
NTIS order #PB 87-208 062.

Superfund Strategy. Examines future Superfund needs and how permanent cleanups can be accomplished in a cost-effective manner for diverse types of sites; describes the interactions among many components of the complex Superfund system; and analyzes the consequences of pursuing different strategies for implementing the program. ITE-252, 4/85; 292 p.

Free summary available.
NTIS order #PB 86-120 425/AS
‡

Technologies and Management Strategies for Hazardous Waste Control. Assesses the criteria for defining hazardous waste and for judging the relative health and environmental hazards of a given waste; evaluates technologies for cleaning up current waste disposal sites that are hazardous to health and the environment; assesses technologies and approaches for the safe treatment, storage, or disposal of hazardous waste; and examines technologies and approaches for reducing the volume of hazardous waste. M-196, 3/83; 408 p.

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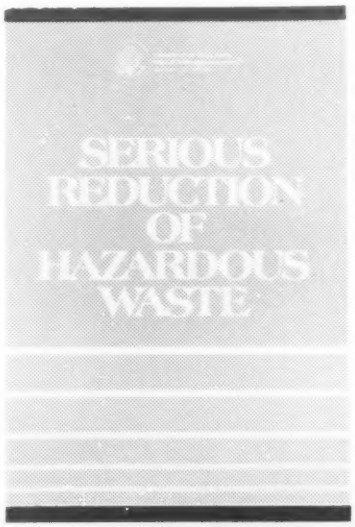
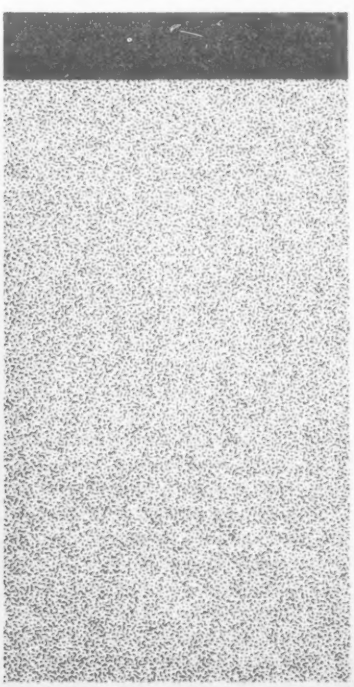


Habitability of the Love Canal Area: An Analysis of the Technical Basis for the Decision on the Habitability of the Emergency Declaration Area—A Technical Memorandum. Based on a report published by the U.S. Environmental Protection Agency which was reviewed by a multidisciplinary team of consultants for several Federal agencies, the U.S. Department of Health and Human Services judged the Love Canal, N.Y., to be as habitable as the control areas with which it was compared. OTA critically reviewed EPA's habitability decision. TM-M-13, 6/83; 60 p.

NTIS order #PB 84-114 917

Nonnuclear Industrial Wastes: Classifying for Hazards Management—A Technical Memorandum. Addresses basic issues surrounding a degree-of-hazard classification approach; the potential for incorporating a degree-of-hazard concept through classification in the Resource Conservation and Recovery Act regulations; and examines various methods of applying a degree-of-hazard classification system. TM-M-9, 11/81; 36 p.

NTIS order #PB 82-134 305



International Competition in Services: Banking, Building, Software, Know How . . . Examines services trade in the world economy, linkages between the services and manufacturing, U.S. employment in the service industries, and U.S. and foreign government policies toward services and the new round of multilateral trade negotiations. Contains a detailed analysis of several service industries based on business strategies as affected by technological developments, industrial structure, and government policies. ITE-328, 7/87; 412 p.

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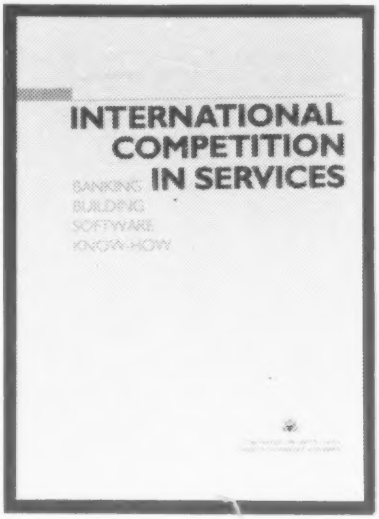

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Trade in Services: Exports and Foreign Revenues—Special Report. Provides a quantitative overview of U.S. international trade in services and discusses policy options for improving Federal Government data on services trade. ITE-316, 9/86; 112 p.

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Technology and Structural Unemployment

Trade Adjustment Assistance: New Ideas for an Old Program—Special Report. Evaluates the problems and opportunities of the Trade Adjustment Assistance program. Also discusses options for TAA redesign and administration that could make both programs—employment and training assistance for workers who have lost jobs on account of trade, and technical assistance for firms and industries hurt by imports—more effect. ITE-346, 6/87; 80 p.

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Technology and Structural Unemployment: Reemploying Displaced Adults. Assesses the reasons and outlook for adult displacement, evaluates the performance of programs to serve displaced adults, and identifies options to improve service. The report also examines trends in international trade and their effects on worker displacement. ITE-250, 2/86; 448 p.

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Plant Closing: Advance Notice and Rapid Responses—Special Report. Explores the benefits and costs of advance notice for plant closings and permanent layoffs and examines the ability of public agencies to provide worker adjustment services rapidly and effectively when employers do give notice. ITE-321, 9/86; 68 p.

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Displaced Homemakers: Programs and Policy—Interim Report. Focuses on problems and performance of Federal support for displaced homemakers. ITE-292, 10/85; 44 p.

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Strategic Materials: Technologies To Reduce U.S. Import Vulnerability. Assesses technical alternatives to continued reliance on imported strategic materials and explores Federal policies to implement the technical alternatives. Identifies major changes in materials vulnerability that are likely to occur over the next 25 years because of advances in such fields as electronics, energy, and transportation. ITE-248, 5/85; 400 p.

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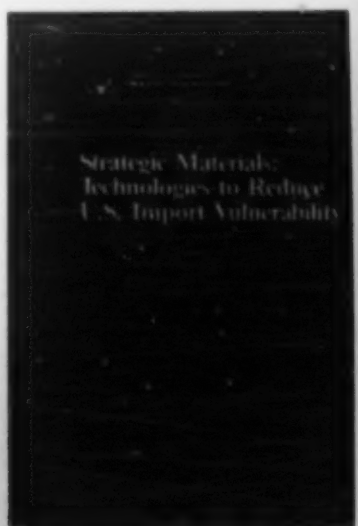

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International Security & Commerce

Space Transportation

Advanced Space Transportation Technologies. Identifies and examines the relationship between space goals and space launch technology and the feasibility of achieving critical technical and cost milestones. In progress.

Reducing Launch Operations Costs: New Technologies and Practices—Technical Memorandum. Examines the launch process and how the use of advanced technologies and management techniques could reduce the costs of launching payloads and overall costs of space transportation. TM-ISC-28, 9/88; 104 p.

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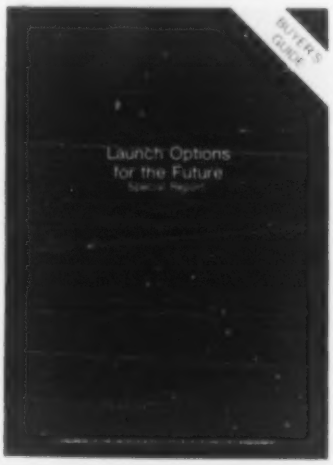
Big Dumb Boosters: A Low Cost Transportation Option?—Background Paper. Examines the Big Dumb Booster debate—the concept for reducing the costs of launching payloads to space—and presents several ideas for Congress to consider in debating the wisdom of further research on the concept. Available from OTA ISC Program.



Launch Options for the Future: A Buyer's Guide—Special Report. Describes the range of launch systems that exist now or could be available in the future and explores the costs of meeting different demand levels for launching humans and spacecraft to orbit. Also discusses the importance of developing advanced technologies for space transportation. ISC-383, 7/88; 112 p.

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New Technology for NATO: Implementing Follow-On Forces Attack. Provides a comprehensive appraisal of the technical, military, and political opportunities and risks of using various technologies to implement the follow-on forces attack concept; assesses current and advanced conventional weapons; discusses possible Soviet responses; examines European attitudes; examines issues such as aircraft and missile platforms and target acquisition; and identifies and assesses unsolved technical problems. ISC-309, 6/87; 240 p.

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The Defense Technology Base: Introduction and Overview—Special Report. Provides an overview of the defense technology base including specific concerns about the health of those industries, both defense-oriented and civilian that provide the technology that winds up in defense systems, and on the management of the Defense Department's technology base programs and technology facilities. ISC-374, 3/88; 124 p.

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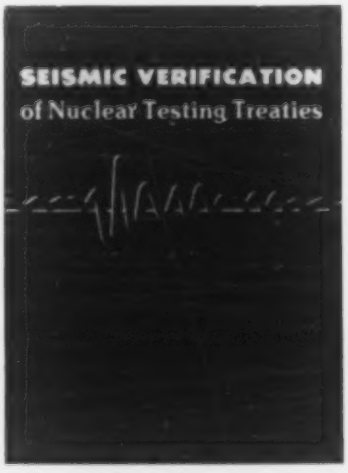
Monitoring and Preventing Accidental Radiation Release at the Nevada Test Site—Special Report. Addresses the technical aspects of preventing and monitoring the accidental release of radioactive material during nuclear testing. In progress.



Technologies for NATO's Follow-On Forces Attack Concept—Special Report. Reviews the operational and technical developments of NATO's Follow-On Forces Attack Concept. ISC-312, 7/86; 48 p.

NTIS order #PB 87-100 343/AS

Seismic Verification of Nuclear Testing Treaties. Examines the impact that developments in seismology have had on the United States' capability to seismically verify a treaty with the Soviet Union to either ban or limit the testing of nuclear weapons. ISC-361, 5/88; 152 p.

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Technology Transfer to China. Examines the role of imported science and technology in the plans of the People's Republic of China; the technology the United States and other nations can supply; the impacts of policies, both for control and promotion on these transfers; and the security and commercial risks involved. ISC-340, 7/87; 256 p.

Free summary available.
NTIS order #PB 87-223 418/AS

Energy Technology Transfer to China—A Technical Memorandum. Addresses the question of whether the flow of U.S. energy technology to China can help to serve U.S. foreign policy and commercial interests. TM-ISC-30, 9/85; 124 p.

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Technology Transfer to the Middle East. Assesses international competition in Middle East technology trade during the past decade, with special attention to transfer of five types of advanced civilian technology; analyzes technology absorption by the recipients in the Islamic Middle East, and the benefits and problems associated with technology transfer for both the recipients and suppliers of technology; includes an analysis of future prospects for technology trade. ISC-173, 9/84; 612 p.

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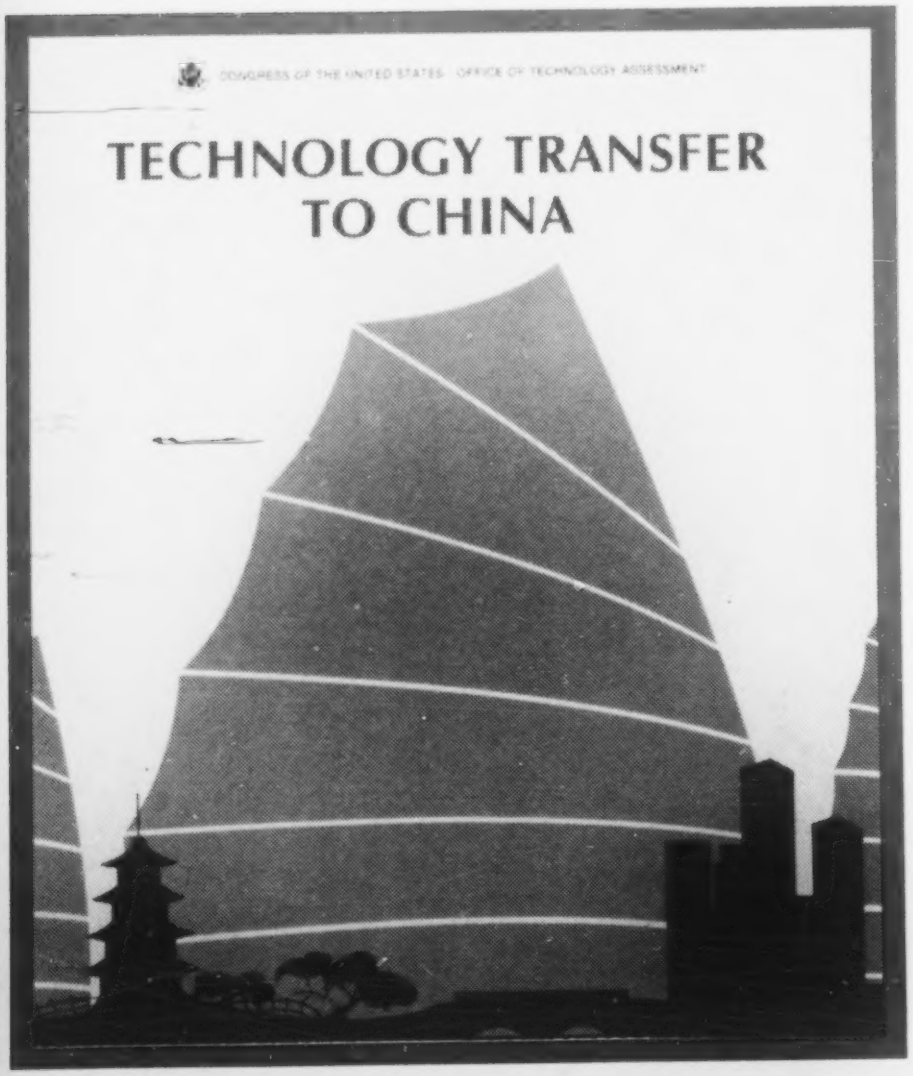

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Ballistic Missile Defense Technologies

SDI: Technology, Survivability, and Software. Provides current information with respect to the technologies presently being researched under the Strategic Defense Initiative; examines available information on the prospects for functional survival against preemptive attack of alternative ballistic missile defense system architectures currently being studied under SDI; and analyzes the issues involved in the question of whether it is feasible to develop reliable software to perform the battle management tasks required by such system architectures. ISC-353, 6/88; 292 p.

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Ballistic Missile Defense Technology. Examines the potential roles of various levels of BMD deployments in U.S. national defense strategy and the potential implications of BMD for strategic stability and arms control. Also assesses the status of the new technologies applicable to BMD. ISC-254, 9/85; 336 p.

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Anti-Satellite Weapons, Countermeasures, and Arms Control. Examines the range of current and potential anti-satellite weapons and countermeasures and discusses a range of potential arms control regimes. ISC-281, 9/85; 160 p.

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Arms Control in Space—Workshop Proceedings. Summary of findings and proceedings of a workshop held by OTA in Washington, DC, on Jan. 30-31, 1984, to explore and examine possible restrictions on anti-satellite weapons as one aspect of space arms control. BP-ISC-28, 5/84; 68 p.

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Directed Energy Missile Defense in Space—Background Paper. Describes and assesses current concepts for directed energy ballistic missile defense in space. BP-ISC-26, 4/84; 100 p.

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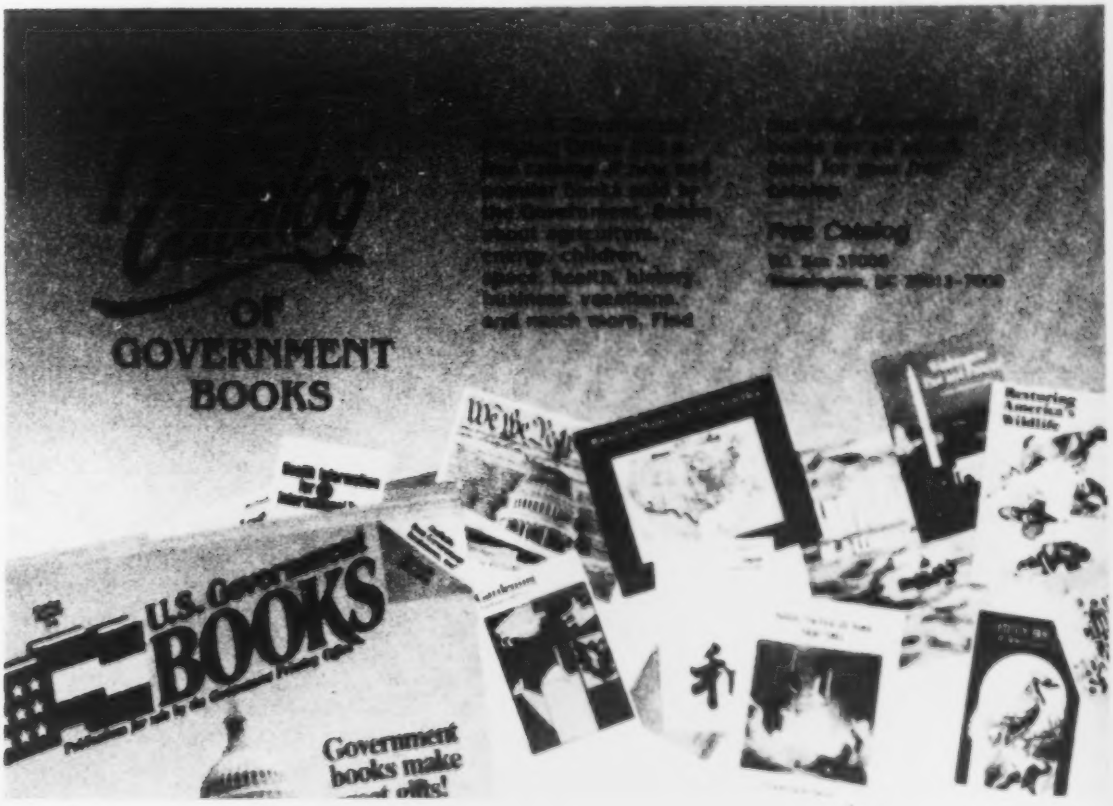

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International Cooperation and Competition in Civilian Space Activities. Evaluates the current status of international competition and cooperation in key areas of space technology, in space science, and for educational and scientific exchange; assesses ways in which space technologies and their products could be used as instruments of U.S. foreign policy, and examines space activities insofar as they affect civilian programs and international commercial and political relations. ISC-239, 7/85; 408 p.

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Remote Sensing and the Private Sector: Issues for Discussion—A Technical Memorandum. This technical memorandum is designed to help determine the appropriate requirements and conditions for private sector ownership of the U.S. land remote-sensing system.
TM-ISC-20, 3/84; 144 p.

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UNISPACE '82: A Context for International Cooperation and Competition—A Technical Memorandum. Discusses the issues which arose at this conference, and assesses their significance for "international competition and cooperation in civilian space activities." TM-ISC-26, 3/83; 88 p.

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Commercial Newsgathering From Space—Technical Memorandum. Examines the technical, economic, strategic, and legal issues that would be raised if the news media attempted to use remote sensing satellites for routine newsgathering.
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U.S.-Soviet Cooperation in Space—A Technical Memorandum. Explores potential areas of cooperation in space, advantages and disadvantages of working together in those areas, history of cooperation, and methods of cooperation as well as areas of research.
TM-STI-27, 7/85; 116 p.

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Civilian Space Stations and the U.S. Future in Space. Examines a range of options regarding the development, acquisition, use, and ownership of long-term infrastructure elements in near-Earth space. The assessment also discusses the possible long-range goals and objectives that should play a large part in determining these infrastructure elements. STI-241, 11/84; 236 p.

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ISC-200, 11/83; 548 p.

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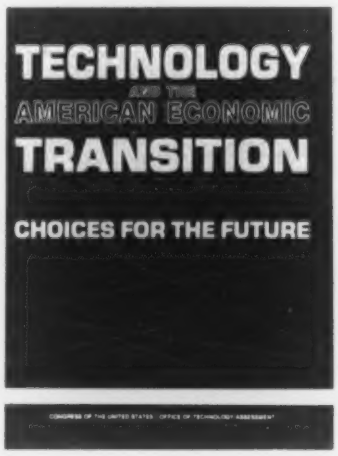

A Review of U.S. Competitiveness in Agricultural Trade—A Technical Memorandum. Reviews key factors that influence U.S. trade in agriculture. TM-TET-29, 10/86; 112 p.

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Technology and the Future of the U.S. Construction Industry—Special Report. Analyzes regulatory and policy alternatives that might encourage research and development in the housing industry. 6/86; 156 p.

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Biological Applications

New Developments in Biotechnology

Patenting Life—Special Report. Examines and analyzes issues relevant to patenting plants, animals, and micro-organisms. BA-370, 3/89; 204 p.

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U.S. Investment in Biotechnology—Special Report. Addresses several broad questions relating to funding research in biotechnology, including areas of research being funded, incentives for investment at the State v. Federal level, collaborative research arrangements, and training. BA-360, 7/88; 304 p.

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Field-Testing Engineered Organisms: Genetic and Ecological Issues—Special Report. Analyzes genetic and ecological issues raised by the deliberate release of genetically engineered organisms into the environment, and describes the present regulatory approach and relevant aspects of public opinion. BA-350, 5/88; 160 p.

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Public Perceptions of Biotechnology—Background Paper. Based on an OTA commissioned national survey of the state of public knowledge and opinion concerning issues of genetic engineering and biotechnology. BP-BA-45, 5/87; 136 p.

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Ownership of Human Tissues and Cells—Special Report. Analyzes the economic, legal, and ethical rights of the human sources of tissues and cells, as well as those of the physicians or researchers who obtain and develop these biological materials. Describes the potential of three rapidly moving technologies (tissue and cell culture, cell fusion to produce monoclonal antibodies, and recombinant DNA). BA-337, 3/87; 176 p.

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Staff Papers available from OTA Biological Applications Program:

Commercial Development of Tests for Human Genetic Disorders (published 2/88).
Transgenic Animals (published 2/88).
Federal Regulation and Animal Patents (published 2/88).

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Infertility: Medical and Social Choices. Analyzes and examines technologies to prevent, diagnose, and treat infertility; Federal and State regulation of reproductive technologies; the special reproductive problems of service veterans; and ethical considerations linked to some infertility treatments and reproductive technologies. BA-358, 5/88; 412 p.

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Summary: Infertility: Medical and Social Choices. BA-359, 5/88; 40 p.

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Mapping Our Genes: Genome Projects—How Big, How Fast? Examines whether and how to determine the function and order of genes on human chromosomes and when to determine the sequence of molecular building blocks that comprise DNA of those chromosomes. BA-373, 4/88; 232 p.

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Methods for Locating and Arranging Health and Long-Term Care for Persons With Dementia. Describes, compares, and evaluates existing methods of locating and arranging health and long-term care services for persons with dementia. Presents criteria and issues to be considered in selecting or designing a system to link these persons with services. Discusses Federal policy options for creating such a system. BA-403. In progress.

Losing a Million Minds: Confronting the Tragedy of Alzheimer's Disease and Other Dementias. Surveys the status of basic biomedical research and health services research and evaluates the methods for providing long-term care for persons with dementia. BA-323, 4/87; 548 p.

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Summary: Losing a Million Minds: Confronting the Tragedy of Alzheimer's Disease and Other Dementias. BA-324, 4/87; 80 p.

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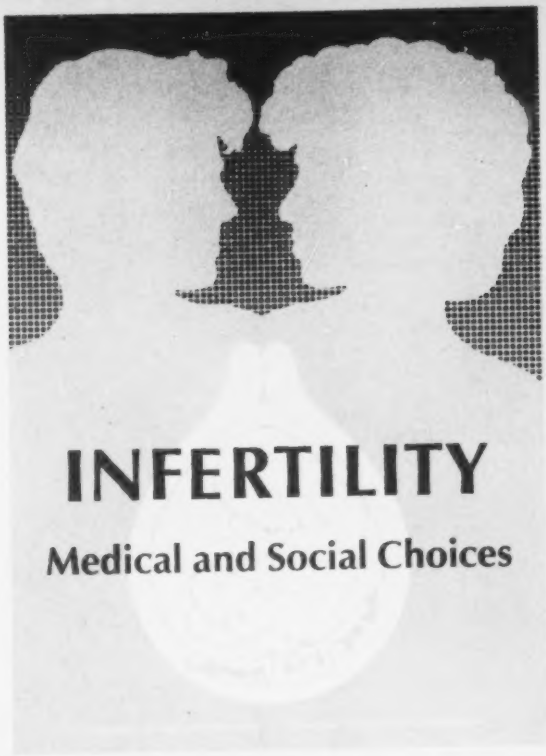

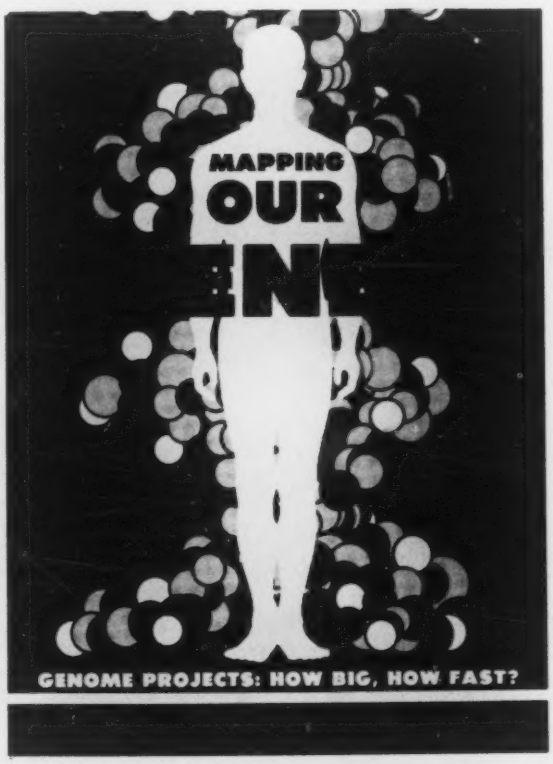

Institutional Protocols for Decisions About Life-Sustaining Treatments—Special Report. Describes hospital and nursing home policies for making decisions about the use of life-sustaining treatments; discusses their development and implementation; discusses the role of private accrediting bodies as well as Federal and State activities. BA-389, 7/88; 92 p.

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Life-Sustaining Technologies and the Elderly. Reviews and evaluates the use of life-sustaining technologies, quality of life, factors in decisions about the technologies, patients' rights, surrogate decision-making, and the allocation of Federal health care resources. BA-306, 7/87; 472 p.

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Summary: Life-Sustaining Technologies and the Elderly. BA-307, 7/87; 40 p.

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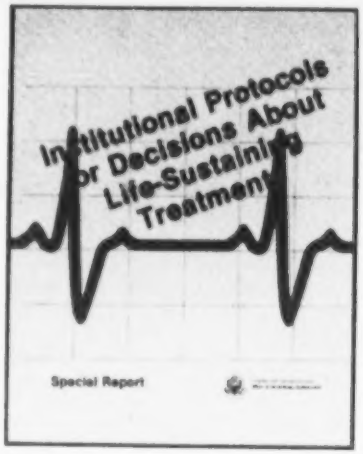

Reproductive Health Hazards in the Workplace. Evaluates the current scientific knowledge base with respect to reproductive hazards in order to outline policy options for the management of reproductive hazards in the workplace. BA-266, 12/85; 436 p.

NTIS order #PB 86-185 030/AS
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Technology and Aging in America. Assesses the impact of technology in four areas—health and life science, employment, housing and public services, and international aspects. BA-264, 6/85; 504 p.

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Human Gene Therapy—Background Paper. Assesses the state of the art of technology involved with treating human genetic defects. Describes techniques and the diseases likely to be treated in the near future; discusses possible long-term effects on human genetic diseases and the human gene pool, and sketches some ethical dilemmas. BP-BA-32, 12/84; 116 p.

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Impacts of Applied Genetics: Micro-Organisms, Plants, and Animals. Examines the application of classical and molecular genetic technologies to micro-organisms, plants, and animals. Current developments are especially rapid in the application of genetic technologies to micro-organisms; these are studied in three industries: pharmaceutical, chemical, and food. HR-132, 4/81; 332 p.

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Hearing Impairment and Elderly People (BP-BA-30)	PB 86-218 559/AS
Impacts of Neuroscience (BP-BA-24)	PB 84-196 716/AS
The Role of Genetic Testing in the Prevention of Occupational Disease (BA-194)	PB 83-233 734
World Population and Fertility Planning Technologies: The Next 20 Years (HR-157) ‡	PB 82-200 338

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Food & Renewable Resources

Enhancing the Quality of U.S. Grain for International Trade. Examines competitive problems the U.S. faces in international grain markets attributed to grain quality; the extent to which U.S. grain-handling technologies, quality standards and government programs have contributed to grain quality problems; differences in grain-handling technology and export quality standards between the U.S. and competitor countries; policy options to enhance the quality of U.S. grain. F-399, 2/89; 300 p.

Free summary available.
GPO stock #052-003-01139-5 **$13.00**

Grain Quality in International Trade: A Comparison of Major U.S. Competitors. Assesses the grain systems of Argentina, Brazil, Canada, France, and Australia includes: overview of each country's production and markets, technologies for producing and handling grain, quality control programs and incentives, and government policy. F-402, 2/89; 168 p.

GPO stock #052-003-01140-9 **$7.50**

Pesticide Residues in Food: Technologies for Detection. Examines existing and emerging techniques for residue analysis of pesticides and their breakdown products in food; addresses Federal research and programmatic issues relevant to the development and adoption of the technologies. F-398, 10/88; 244 p.

GPO stock #052-003-01132-8 **$10.00**
NTIS order #PB 89-136 444/AS
▲ 17

Grassroots Development: The African Development Foundation. Examines ADF's funding program in agriculture and renewable resources to assess the degree to which ADF achieves its legislated purposes to support participation of the poor in development; assess the extent to which ADF efforts are sustainable and replicable; examine the degree to which social and economic development has resulted; and identify lessons learned from ADF for AID and other donors. F-378, 6/88; 192 p.

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NTIS order #PB 88-236 252/AS
French report brief available from the Food Program.

Enhancing Agriculture in Africa: A Role for Development Assistance. Assesses the status of low-resource agriculture in Africa; the potential of specific technologies for building on the best aspects of traditional farming, herding, and fishing systems; and important strategic aspects of effective foreign assistance. Also, it examines various bilateral and multilateral development assistance programs and discusses, in particular, the U.S. role in agricultural research, training, and technical assistance. F-356, 9/88; 240 p.

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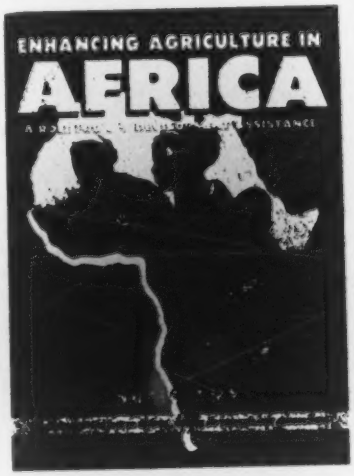

Continuing the Commitment: Agricultural Development in the Sahel—Special Report. Examines the record of assistance to the nations of Sahel in West Africa, explores the lessons learned in the past decade of efforts, and suggests policy implications for more effective U.S. assistance there and elsewhere in Africa. F-308, 8/86; 176 p.

NTIS order #PB 87-117 644/AS
French summary available from the Food Program.

Africa Tomorrow: Issues in Technology, Agriculture, and U.S. Foreign Aid—A Technical Memorandum. Defines various issues in technology development, technology transfer, and technical assistance which could be considered as an effective strategy to assist African countries in enhancing their food production. TM-F-31, 12/84; 148 p.

NTIS order #PB 85-238 624/AS

Science & Technology for Development—Staff Paper. Discusses the role of S&T as it relates to foreign policy in developed and developing countries; the effective use of S&T in the development process; the role of S&T in international development; and implementation of a U.S. S&T agenda. 2/89, 84 p.

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Integrated Renewable Resource Management for U.S. Insular Areas. Examines the role of renewable resource management in economic development of U.S.-affiliated tropical Pacific and Caribbean islands; assesses agricultural, aquacultural, nearshore fisheries, and resource development planning technologies for their suitability in various island settings; identifies major strategies for island resource development, conservation, recovery, and replenishment; provides analysis of integration of these strategies with other forms of economic development; and proposes options for Congress to foster pursuit and achievement of renewable resource management objectives. F-325, 6/87; 452 p.

Free summary available.
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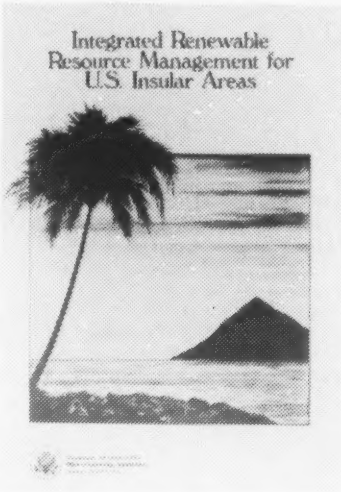

Technologies To Maintain Biological Diversity. Examines the growing concern over the accelerating reduction in biological diversity worldwide, and identifies a range of technologies available to maintain ecosystem, species, and genetic diversity; identifies major strategies for conserving biological diversity on-site and off-site, and the growing importance of linking conservation methods; and assesses institutional obstacles and opportunities in promoting biological diversity conservation in the United States and internationally. F-330, 3/87; 340 p.

Free summary available.
GPO stock #052-003-01058-5 **$15.00**
NTIS order #PB 87-207 494/AS
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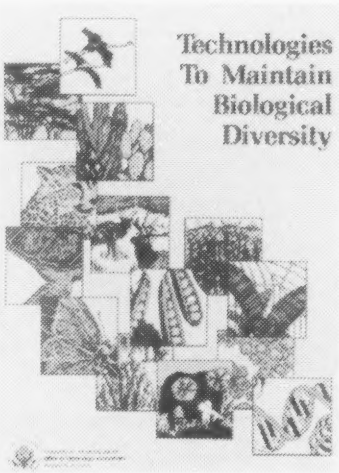
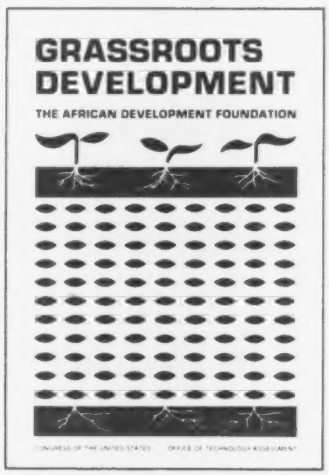


Grassroots Conservation of Biological Diversity in the United States—Background Paper #1. Examines the contributions of grassroots organizations and individuals by illustrating the diversity and range of selected efforts and indicating the present and potential impact of these activities on the overall effort to maintain biological diversity. BP-F-38, 2/86; 72 p.

NTIS order #PB 86-181 997/AS



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Assessing Biological Diversity in the United States: Data Considerations—Background Paper #2. Examines how data can be used in maintaining biological diversity; describes primarily the Federal institutions that collect biological data; provides an overview of existing Federal biological databases; discusses technical aspects of collecting, storing, and retrieving biological data; and suggests ways to improve biological databases so that they can be better used to help maintain diversity of this Nation's plant and animal life. BP-F-39, 3/86; 80 p.

NTIS order #PB 86-181 989/AS

Technology, Public Policy, and the Changing Structure of American Agriculture. Focuses on future and emerging technologies in animal, plant, chemical, mechanization, and information areas and their implications for agricultural structure. Also explores linkages between policy and structure for a clearer understanding of the factors that influence the evolution of the agricultural sector. F-285, 3/86; 380 p.

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NTIS order #PB 86-184 637/AS
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Technology, Public Policy, and the Changing Structure of American Agriculture: A Special Report for the 1985 Farm Bill. Special report focusing on three main policy areas of the reauthorization of the Agriculture and Food Act of 1981: commodity, credit, and research and extension. F-272, 3/85; 100 p.

NTIS order #PB 86-184 637/AS

Innovative Biological Technologies for Lesser Developed Countries—Workshop Proceedings. Workshop proceedings held in November 1980. Discusses the U.S. Agency for International Development and its role in using, promoting, and developing innovative biological technologies to help lesser developed countries enhance the productivity of their soils, reduce their need for costly chemical fertilizers, and increase food supplies. BP-F-29, 7/85; 252 p.

NITS order #PB 86-121 738/AS

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Technologies To Benefit Agriculture and Wildlife—Workshop Proceedings. Workshop proceedings presenting a broad range of papers on specific technologies that could benefit both agricultural production and wildlife habitat requirements on private lands. Also describes some constraints and opportunities to integrate agriculture and wildlife concerns and discusses policy opportunities for improved agriculture and wildlife integration. BP-F-34, 5/85; 148 p.

NTIS order #PB 85-239 747/AS

Technology, Renewable Resources, and American Crafts—Background Paper. Summarizes technology's effects on crafts (some of which are folk and fine art) that use renewable resources as raw materials. BP-F-27, 4/84, 60 p.

NTIS order #PB 84-222 421/AS

Water-Related Technologies for Sustainable Agriculture in U.S. Arid/Semiarid Lands. Assesses existing and emerging water-related technologies for their ability to support long-term productivity of arid/semiarid agricultural plants and animals in the context of institutional factors, water supply/use relationships, and the characteristics of the renewable natural resource base on which agriculture depends. F-212, 10/83; 412 p.

NTIS order #PB 84-172 667/AS

Water-Related Technologies for Sustainable Agriculture in Arid/Semiarid Lands: Selected Foreign Experience—Background Paper. Highlights examples of water-related technologies that have been successfully applied in arid and semiarid foreign countries—integrated irrigation management, intensive water use planning, cooperative plant breeding, native game ranching, and guayule production. BP-F-20, 5/83; 84 p.

NTIS order #PB 84-102 912/AS

Plants: The Potentials for Extracting Protein, Medicines, and Other Useful Chemicals—Workshop Proceedings. Identifies technological opportunities and constraints for commercially developing protein, pharmaceuticals, chemicals, and other associated extracts from plants. BP-F-23, 9/83; 252 p.

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Sustaining Tropical Forest Resources: Reforestation of Degraded Lands—Background Paper #1 (BP-F-18)	#PB 84-104 041/AS
Sustaining Tropical Forest Resources: U.S. and International Institutions—Background Paper #2 (BP-F-19)	#PB 84-104 058/AS
Technologies To Sustain Tropical Forest Resources (F-214)	#PB 84-175 637/AS

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Health

Preventive Health Services Under Medicare. Provides in-depth effectiveness and cost analyses of providing selected preventive health services to the elderly under the Medicare program. Series of Staff Papers and Contractor Papers available from OTA Health Program.

Screening for Open-Angle Glaucoma in the Elderly. Looks at the current state of screening for early signs of open-angle glaucoma or its precurser, ocular hypertension; the potential benefits that might be derived from a screening program; and the likely magnitude of the cost to Medicare if glaucoma screening were offered as a covered service. 10/88; 64 p.

The Use of Preventive Services by the Elderly. Examines factors associated with whether the elderly receive preventive services and the implications for Medicare if preventive health services were offered as covered benefits. 1/89; 72 p.

Costs and Effectiveness of Screening for Cholesterol in the Elderly—Contractor Paper. Examines our current understanding of the relationship among cholesterol levels, coronary heart disease, and mortality for elderly people; the technologies available to measure cholesterol levels; the potential benefits and costs of treating elevated cholesterol levels; and the likely magnitude of the cost to Medicare if cholesterol screening were offered as a covered service. In progress.

Costs and Effectiveness of Screening for Cervical Cancer in the Elderly—Contractor Paper. Looks at the effectiveness of screening for cervical cancer among elderly women and estimates the potential cost to the Medicare program if screening were offered as a covered benefit. In progress.

Colorectal Cancer Screening in the Elderly. Looks at the effectiveness of screening for colorectal cancer in the elderly and estimates the potential cost to the Medicare program if screening were offered as a covered benefit. In progress.

Medical Testing and Health Insurance. Identifies and evaluates the tests in use and under development; how such tests are used by insurers in underwriting individuals and their dependents who apply for health coverage on their own and without the benefits of group membership; how employers use tests to screen for medical and health-related conditions among prospective employees in order to hold down health care costs; and policy options vis-a-vis the Federal role in relationship to State and private sector actions and responsibilities. H-384, 8/88; 224 p.

Free summary available.
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The Quality of Medical Care: Information for Consumers. Evaluates whether valid information on providers' quality could be developed and made publicly available to guide consumers' choices among physicians and hospitals. The report evaluates 10 possible indicators of quality. Policy options were developed to address deficiencies associated with quality assessments in the following areas: quality assessment techniques, availability of data for quality assessments, availability of quality of care information to the public, and dissemination of information to individuals and organizations. H-386, 6/88; 332 p.

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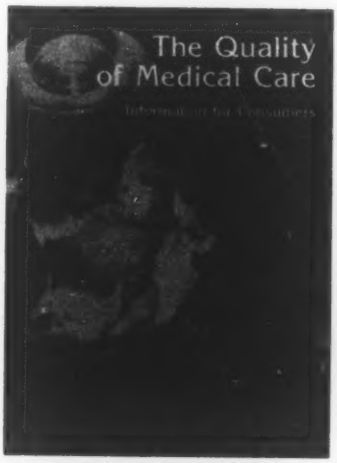

Drug Labeling in Developing Countries. Determines appropriateness of labeling information provided by U.S.-based multinational pharmaceutical companies for their products sold in developing and newly industrialized countries; interim report describes method of data collection and analysis for three countries, background and statistics on pharmaceutical multinationals, and international public and private sector efforts relating to drug information issues. In progress.

Healthy Children: Investing in the Future. Examines current evidence on the effectiveness and costs of health care technologies in promoting and maintaining children's health; examines patterns of availability of these technologies and barriers to their appropriate use; and examines the role of Federal policies, including Medicaid, Maternal and Child Health, and the Women, Infants and Children Program in providing access to preventive and therapeutic technologies. H-344. 2/88; 310 p.

Free summary available.
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‡

Technology-Dependent Children: Hospital v. Home Care—Technical Memorandum. Examines problems of health care financing encountered by technology-dependent children. TM-H-38, 5/87; 116 p.

NTIS order #PB 87-194 551
▲ 6

Case Study #38: Neonatal Intensive Care for Low Birthweight Infants: Costs and Effectiveness. Analyzes evidence on the effectiveness of neonatal intensive care for the survival and normal developmental outcome of extremely premature babies. HCS-38 12/87: 88 p.

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Identifying and Regulating Carcinogens—Background Paper. Comparison of Federal carcinogen policies on a number of technical and scientific points concerning the conduct of animal studies, the procedures used to evaluate the results of the studies, and the ultimate regulatory use of the data resulting from the studies. BP-H-42, 11/87; 260 p.

NTIS order #PB 88-136 999
▲ 15,16

Children's Mental Health: Problems and Services—Background Paper. Examines mental health services currently available to children; the effectiveness of the various mental health treatments and the appropriate mix of mental health services; the roles third-party coverage and Federal and State Governments play in the provision of mental health services; and identifies areas for further research. BP-H-33, 12/86; 192 p.

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NTIS order #PB 87-207 486/AS
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Case Study #37: Nurse Practitioners, Physician Assistants, and Certified Nurse-Midwives: A Policy Analysis. Examines the costs, effectiveness and payment status of nurse practitioners, certified nurse-midwives, nurse clinicians, physician assistants, and Medex in the United States. HCS-37, 12/88; 96 p.

NTIS order #PB 87-177 465/AS
▲ 21

Technologies for Detecting Heritable Mutations in Human Beings. Examines the scientific basis of new technologies, their current status, and potential improvement for predicting the mutagenic risk of chemicals and physical agents. H-298, 9/86; 156 p.

Free summary available.
NTIS order #PB 87-140 158/AS
▲ 6

Indian Health Care. Analyzes the quality and adequacy of data on Indian health status; identifies the types and distribution of technologies and services available through the Indian Health Service and other providers; determines the desirable range and methods of delivery of health-related technologies and services; and develops policy options to improve the selection, provision, financing, and delivery of technologies and services; and develops policy options to improve the selection, provision, financing, and delivery of technologies and services to Indian populations. H-290, 4/86; 384 p.

Free summary available.
NTIS order #PB 86-206 091/AS

Payment for Physician Services: Strategies for Medicare. Examines alternative methods of paying for physician services: 1) retain the "customary, prevailing, and reasonable" (CPR) method, but continue to use other methods for specific services; 2) replace CPR with payment based on fee schedules; 3) explore moving to payment for packages of services on a wide scale; and 4) pay for all care by capitation payment. OTA analyzes these strategies for their effects on costs, quality, access, technological change and administrative feasibility. H-294, 2/86; 288 p.

Free summary available.
GPO stock #052-003-01020-8 $9.00
NTIS order #PB 86-182 011/AS
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Case Study #36: Effects of Federal Policies on Extracorporeal Shock Wave Lithotripsy. HCS-36, 5/86; 120 p.

NTIS order #PB 86-217 999/AS

Medicare's Prospective Payment System: Strategies for Evaluating Cost, Quality, and Medical Technology. Examines Medicare's hospital payment system—prospective payment based on diagnosis-related groups (DRGs), and the impact of the development and use of medical technology. The assessment identifies the range of possible effects related to medical technology and its use; evaluation measures; ongoing or planned monitoring and evaluation activities; shortcomings and gaps in these activities; and develops an overall design for evaluation, including timing, methodology, priorities, and the role of current or planned efforts. H-262, 10/85; 248 p.

NTIS order #PB 86-184 926/AS
▲ 7

Status of Biomedical Research and Related Technology for Tropical Diseases. Examines the status of biomedical and epidemiologic research and related technology development in the area of tropical diseases, identifies areas of promise for continued or increased funding, and presents a series of options for making decisions about research funding, technology development and testing, and other policies regarding tropical diseases. H-258, 9/85; 296 p.

Free summary available.
NTIS order #PB 87-139 614/AS

Quality and Relevance of Research and Related Activities at the Gorgas Memorial Laboratory—A Technical Memorandum. Reviews the quality and relevance of activities at the Gorgas Memorial Laboratory (GML), based on Gorgas's publishing record, an OTA commissioned survey of GML's scientific reputation, a critical review of recent articles and current manuscripts, a comparison of GML's areas of effort with health problems in tropical America and with scientific opportunity, a review of past scientific evaluations of GML, and an examination of its record of competing for grants and contracts. TM-H-18, 8/83; 96 p.

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Preventing Illness and Injury in the Workplace. Develops information about research and development, diffusion, application, and evaluation of workplace control technologies. Engineering controls, worker education programs, personal protective devices, and interrelationships between them and their role in worker protection are evaluated. H-256, 4/85; 436 p.

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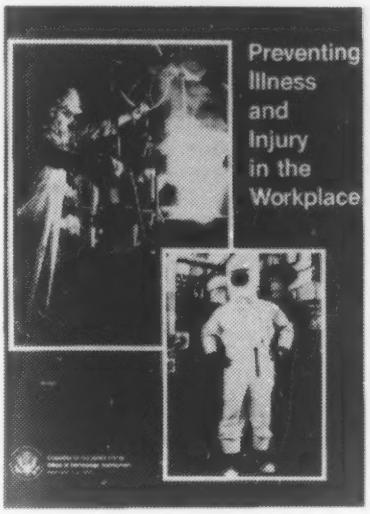

Blood Policy and Technology. Assesses technologies affecting the availability, users, and risks of blood. Areas assessed are: blood collection, processing, storage, and distribution; identification, isolation, production, and use of blood components; blood substitutes; and identification and prevention of blood-transmitted diseases and other risks. H-260, 1/85; 248 p.

Free summary available.
NTIS order #PB 85-234 870/AS
▲ 6

Federal Response to AIDS

Do Insects Transmit AIDS?—Staff Paper. Examines whether blood-sucking insects, such as biting flies and mosquitoes, transmit the AIDS virus from infected to uninfected persons. 9/87; 48 p.

NTIS order #PB 88-143 177/AS.

Costs of AIDS and Other HIV Infections: Review of the Estimates —Staff Paper. Reviews medical costs related to treating patients with AIDS. 5/87. Available from OTA Health Program.

How Effective Is AIDS Education?—Staff Paper. Analyzes the effectiveness of educational efforts regarding the spread of infection with the AIDS virus. 6/88; 136 p.

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AIDS and Health Insurance: An OTA Survey—Staff Paper. Surveys commercial health insurers' underwriting practices for individual applicants for health insurance and on the impact of AIDS on their claims costs. 2/88; 64 p.

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NTIS order #PB 88-170 204

Impact of AIDS on the Northern California Region of Kaiser Permanente—Staff Paper. Reviews Kaiser Permanente Medical Care Program's northern California region's AIDS cases between 1981 and June 1987 and presents a cost analysis of a sample of these patients. 7/88; 52 p.

GPO stock #052-003-01128-0 $2.25

Review of the Public Health Services' Response to AIDS—Technical Memorandum. Reviews the activities of the Public Health Service response to AIDS and evaluates the planning, resources, and staffing of PHS's efforts to control AIDS. TM-H-24, 2/85; 168 p.

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Federal Policies and the Medical Devices Industry

Federal Policies and the Medical Devices Industry. Develops information about the nature of firms that manufacture medical technologies, conducts case studies of selected medical devices, and examines present and proposed Federal policies that influence the medical devices industry and the cost and effectiveness of medical devices. H-229, 10/84; 260 p.

Free summary available.
NTIS order #PB 85-199 552/AS
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Case Study #27: Nuclear Magnetic Resonance Imaging Technology: A Clinical, Industrial, and Policy Analysis. HCS-27, 9/84; 156 p.

NTIS order #PB 85-146 207/AS

Case Study #29: Boston Elbow. HCS-29, 11/84; 44 p.

NTIS order #PB 85-145 936/AS

Case Study #30: The Market for Wheelchairs: Innovation and Federal Policy. HCS-30, 11/84; 68 p.

NTIS order #PB 85-145 944/AS

Case Study #31: Contact Lenses. HCS-31, 12/84; 76 p.

NTIS order #PB 85-204 451/AS

Case Study #32: Hemodialysis Equipment. HCS-32, 12/84; 80 p.

NTIS order #PB 85-154 953/AS

Case Study #33: Technologies for Managing Urinary Incontinence. HCS-33, 7/85; 76 p.

GPO stock #052-003-00999-4 $3.25
NTIS order #PB 85-240 208/AS

Procurement and Evaluation of Medical Devices by the Veterans Administration—A Technical Memorandum. TM-H-16, 2/85; 116 p.

NTIS order #PB 87-117 677/AS

Assessment of Technologies for Determining Cancer Risks From the Environment. Examines four major issues: estimates of the percentage of cancer due to environmental exposure, technologies used to test for carcinogenicity, methods used for extrapolating data from animals to humans, and regulatory pathways for controlling carcinogens. H-138, 6/81; 244 p.

NTIS order #PB 81-235 400
Free summary available.

Scientific Validity of Polygraph Testing: A Research Review and Evaluation—Technical Memorandum. Presents the results of the OTA review and assessment of the scientific evidence on the validity of polygraph testing. TM-H-15, 11/83; 140 p.

GPO stock #052-003-00934-0 $5.50
NTIS order #PB 84-181 411/AS

Abstracts of Case Studies in the Health Technology Case Study Series. Contains a description of the OTA "Health Technology Case Study Series" and abstracts of each of the case studies published. P-225, 12/86; 64 p.

Available free from OTA Publications Office.

Medical Technology and Costs of the Medicare Program

Medical Technology and Costs of the Medicare Program. Analyzes a broad range of mechanisms to reduce or limit Medicare costs related to medical technology. Includes case studies, technical memoranda, and background papers of particular medical technologies. H-227, 7/84; 232 p.

NTIS order #PB 85-146 215/AS

Case Study #22: The Effectiveness and Costs of Alcoholism Treatment. HCS-22, 3/83, 100 p.

NTIS order #PB 83-192 492

Case Study #23: The Safety, Efficacy, and Cost Effectiveness of Therapeutic Apheresis. HCS-23, 7/83; 168 p.

NTIS order #PB 84-114 842/AS

Case Study #24: Variations in Hospital Length of Stay: Their Relationship to Health Outcomes. HCS-24, 8/83; 88 p.

NTIS order #PB 84-111 483/AS

Diagnosis Related Groups (DRGs) and the Medicare Program: Implications for Medical Technology—A Technical Memorandum. TM-H-17, 7/83; 84 p.

NTIS order #PB 84-111 525/AS

Case Study #28: Intensive Care Units (ICUs): Clinical Outcomes, Costs, and Decisionmaking. HCS-28, 11/84; 100 p.

NTIS order #PB 85-145 928/AS
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Case Study #34: The Cost Effectiveness of Digital Subtraction Angiography in the Diagnosis of Cerebrovascular Disease. HCS-34, 5/85; 68 p.

NTIS order #PB 85-241 115/AS

Case Study #35: Efficacy, Safety, and Cost Effectiveness of Continuous Ambulatory Peritoneal Dialysis. HCS-35, 9/85; 76 p.

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Communications Systems for an Information Age. Explores new communication technologies and the intricacies of coordinating them; identifies the potential for meeting changing communication goals and needs; discusses conflicts that might stem from development and use; and examines new communications systems abroad and the potential relationships to the U.S. system. CIT-407. In progress.

Copyright and Home Copying. Examines the impact of home audio taping on the recording industry and other copyright-dependent industries. In progress.

Informing the Nation: Federal Information Dissemination in an Electronic Age. Identifies and describes the current institutional base for Federal dissemination of public information; assesses the current technological base and future technical developments; evaluates present and future public information needs and how technology might help meet such needs; and identifies and analyzes key issues and options. CIT-396, 10/88; 344 p.

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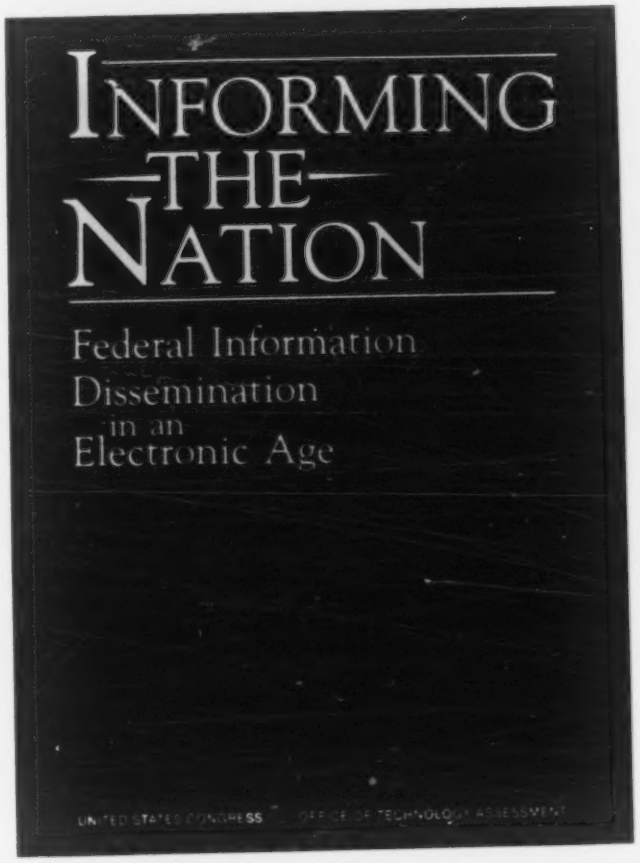

Defending Secrets, Sharing Data: New Locks and Keys for Electronic Information. Analyzes the need for information security; examines whether safeguards designed for use by defense and intelligence agencies can meet the needs of commercial users without jeopardizing U.S. intelligence objectives. The report also examines broader issues of the appropriate role of defense and intelligence agencies in civilian matters, and how openness and free market can coexist with secret operations and controls on sensitive information. CIT-310, 10/87; 200 p.

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Electronic Delivery of Public Assistance Benefits: Technology Options and Policy Issues—Background Paper. Discusses the technological options available for use in an electronic system to deliver public assistance benefits, the privacy and security implications of such a system, and the programmatic effects of changing to an electronic delivery system. BP-CIT-47, 4/88; 32 p.

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The Electronic Supervisor: New Technology, New Tensions. Examines new and prospective capabilities of communication technology; assesses their impact on privacy and security; and analyzes how the combination of technical, administrative, and legal safeguards can cope with privacy and security implications. CIT-333, 9/87; 150 p.

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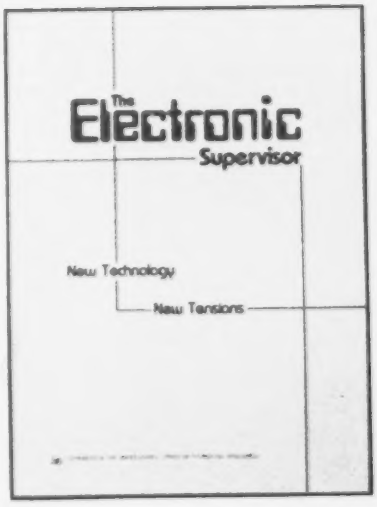

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Science, Technology, and the Constitution in The Information Age

Science, Technology, and the Constitution—Background Paper. Discusses the effects science and technology has had in shaping American society and our way of life. BP-CIT-43, 9/87; 32 p.

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Science, Technology, and the First Amendment—Special Report. Part I considers the constitutional status of science—is there a "right to do research," or should some areas of experimentation be prohibited or regulated? Discusses how freedom of speech and press apply to scientific communications, and the extent to which these fundamental freedoms can be and are restricted in the interest of national security and export controls. Part II reviews "new technologies for the press:" news-gathering, news-editing, and news-delivery; implications for the meaning of freedom of the press. CIT-369, 1/88; 80 p.

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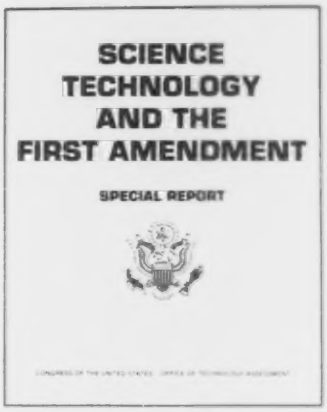

Criminal Justice, New Technologies, and the Constitution—Special Report. Identifies new technologies used for investigation, apprehension, and confinement of offenders, and their effects on the constitutional protection of individual rights. CIT-366, 5/88; 64 p.

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Biology, Medicine, and the Bill of Rights—Special Report. Examines some new technological capabilities that have the potential for enlarging the area of personal choice, or creating new tensions between individual rights and the general welfare. CIT-371, 9/88; 132 p.

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Democratic Governance Through Information and Communications Technologies—Background Paper. Describes the use of technologies for communication and information exchange between elected officials and their constitutents at the local, state, and Federal level. BP-CIT-59. In progress.

Intellectual Property Rights in an Age of Electronics and Information. Identifies and analyzes trends in the development of the new information technologies to determine those areas where there might be gaps in the laws and practices of intellectual property. CIT-302, 4/86; 300 p.

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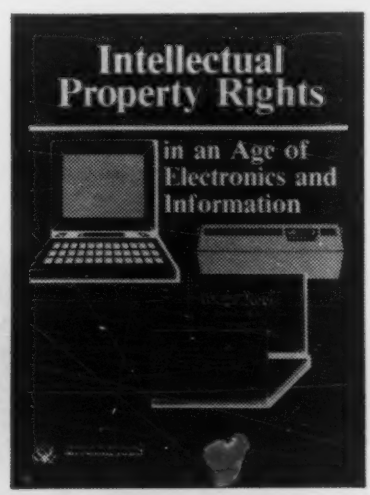

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Federal Government Information Technology: Management, Security, and Congressional Oversight. Focuses on the management, use, and congressional oversight of information technology in the Federal Government. CIT-297, 2/86; 192 p.

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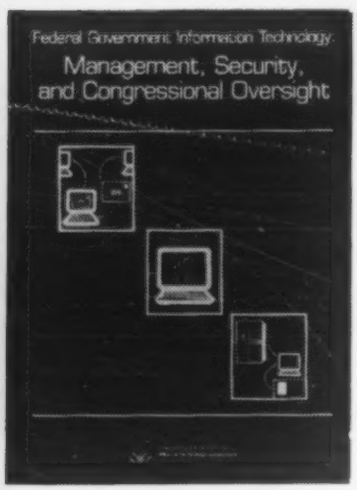

Federal Government Information Technology: Electronic Record Systems and Individual Privacy. Addresses: 1) technological developments relevant to government record systems; 2) current and prospective Federal agency use of electronic record systems; 3) the interaction of technology and public law relevant to protecting privacy; and 4) possible actions. CIT-296, 6/86; 160 p.

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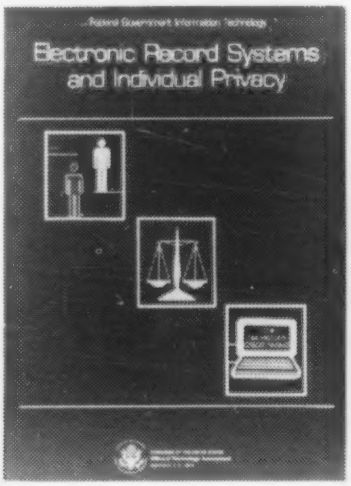

Federal Government Information Technology: Electronic Surveillance and Civil Liberties. Focuses on technological developments in the basic communication and information infrastructure of the United States that present new or changed opportunities for and vulnerabilities to electronic surveillance. CIT-293, 10/85; 80 p.

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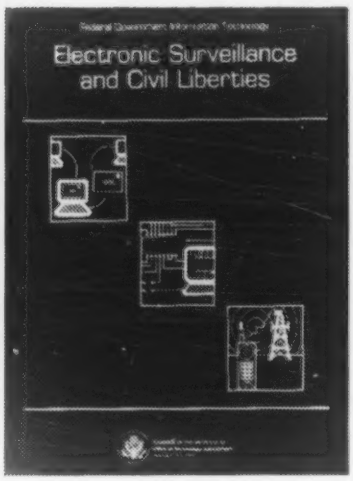

Information Technology Research and Development

Information Technology R&D: Critical Trends and Issues. Analyzes Federal policy, both directly by trends in R&D support and indirectly by tax, antitrust, regulatory, copyright, and education policy. CIT-268, 2/85; 352 p.

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Microelectronics Research and Development—Background Paper. Describes the current state of microelectronics research and development by examining the technologies emerging from R&D efforts and the range of institutional support for R&D. BP-CIT-40, 3/86; 44 p.

NTIS order #PB 86-205 200/AS

Scientific Use of Supercomputers—Background Paper. Assesses the progress in Federal efforts to make supercomputers available to the U.S. scientific research community, and examines the issues of impacts on technology development, facility management, software development, and networking. BP-CIT-31, 3/86; 36 p.

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Computerized Manufacturing Automation: Employment, Education, and the Workplace. Assesses trends and the state of R&D in computerized manufacturing technologies over this decade; the development of industries producing computerized manufacturing equipment, software, and services; the potential utility of computerized automation for various categories of manufacturing industries that might use it; impacts on employment; implications for education and training; and analyzes the impacts of Federal policy options on the development and use of computerized automation systems in U.S. manufacturing. CIT-235, 4/84; 472 p.

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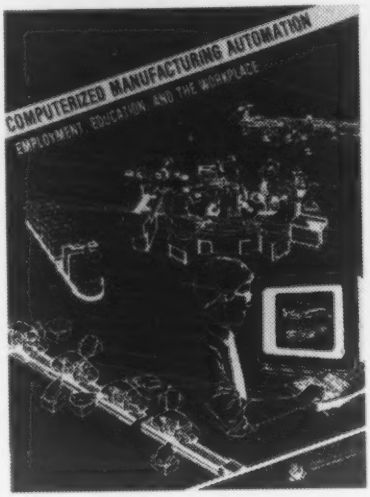

Informational Technology and Its Impact on American Education. Provides an overview of the issues relating to the educational applications of the new information technologies. It examines both the demands that the information revolution will make on education and the opportunities afforded by the new information technologies to meet those demands. CIT-187, 11/82; 280 p.

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Extending Cabotage Policy to All Commercial Maritime Activities in the EEZ—Background Paper. Examines Federal policies requiring U.S. flag shipping to be used in coastwise trade and estimates costs and benefits of extending those requirements to other maritime activities within the 200-mile exclusive economic zone. In progress.

Municipal Solid Waste Management. Evaluates how different technologies for reducing and managing solid waste can be used in an environmentally sound and cost-effective long-term strategy. In progress.

Issues in Medical Waste Management—Background Paper. Assesses the adequacy of current medical waste disposal practices; the potential risks from such practices; the need for additional research and data bases; and the possible need for Federal requirements for the handling, treatment, storage, and disposal of medical wastes. BP-O-49 10/88; 48 p.

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An Evaluation of Options for Managing Greater-Than Class C Low-Level Radioactive Waste—Background Paper. Analyzes a range of storage and disposal options for the most radioactive category of low-level radioactive waste, greater than-Class C (GTCC) waste. A three-step integrated management approach is presented: 1) limited-access to a DOE storage facility, until 2) an extended storage facility can be developed, and 3) eventual disposal in a DOE facility. OTA-BP-0-40, 10/88; 44 p. Available from OTA Oceans Program.

New Clean Air Act Issues. Focuses on the health-based air quality standards for ozone; addresses the problem of regional oxidants; evaluates the cost-effectiveness of controlling various sources of hydrocarbon emissions for lowering ozone levels. O-412. In progress.

Urban Ozone and the Clean Air Act: Problems and Proposals for Change—Staff Paper. Examines the ozone nonattainment problem. 4/88; 164 p.

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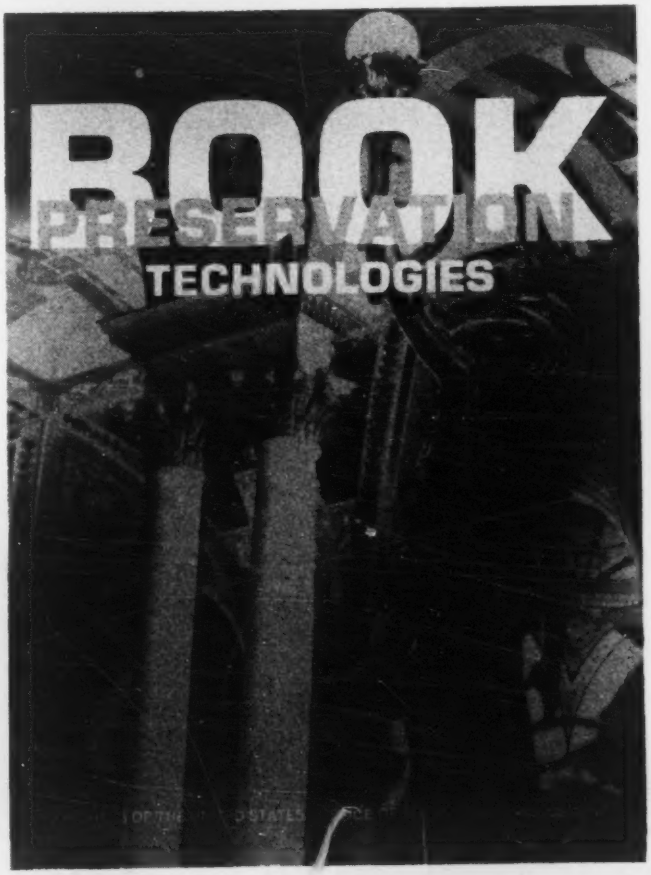

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The Border War on Drugs. Evaluates current and proposed technologies for drug interdiction, their cost-effectiveness, and their most appropriate use in controlling illegal drug traffic. O-336, 3/87; 176 p.

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Oil and Gas Technologies for the Arctic and Deepwater. Explores the range of technologies required for exploration and development of offshore energy resources and assesses associated economic factors and financial risks. Also evaluates the environmental factors related to energy activities in frontier regions and considers important government regulatory and service programs. O-270, 5/85; 236 p.

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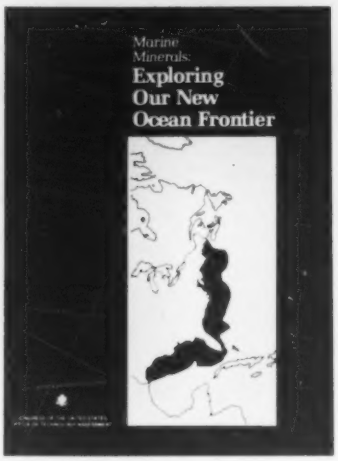

Volume I: Protecting the Nation's Groundwater From Contamination. Provides comprehensive examination of the nature and extent of groundwater contamination, present efforts and capabilities to deal with groundwater contamination problems, and prospects for protecting groundwater quality. Key Federal policy options are also addressed. O-233, 10/84; 244 p.

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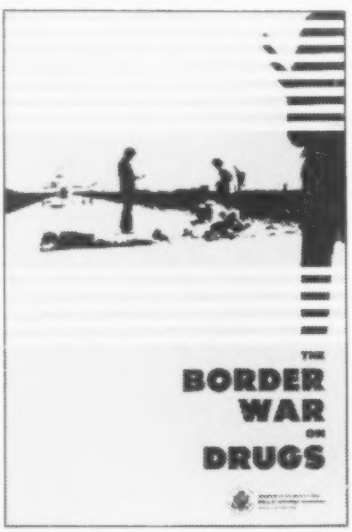

Volume II: Protecting the Nation's Groundwater From Contamination. Presents in detail the information and data on which the analyses and conclusions of Vol. I are based. The report is organized into eight appendixes covering health impacts and sources of groundwater contamination; the State framework for protecting groundwater quality based on results from a State survey; technical and nontechnical issues related to the application of corrective action alternatives; and definitions of hydrogeologic terms. O-276, 10/84; 264 p.

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Acid Rain and Transported Air Pollutants: Implications for Public Policy. Characterizes the potential benefits of acting now to abate long-range transport air pollution and the potential costs of action that may be premature. O-204, 6/84; 324 p.

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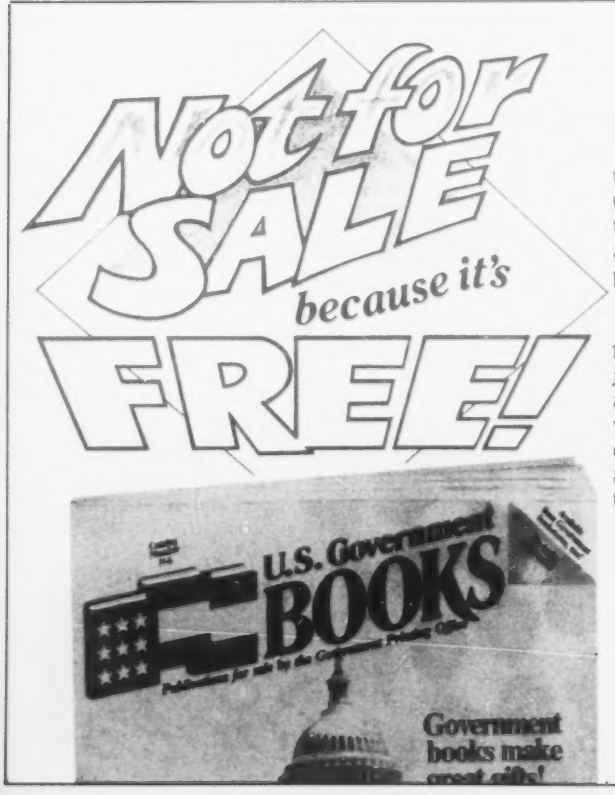

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Safe Skies for Tomorrow: Aviation Safety in a Competitive Environment. Examines the changes in industry operations and the commercial aviation safety record over the past 10 years; assesses the effectiveness of FAA safety programs and oversight in addressing issues raised by changes in industry operations; and analyzes policy options that include programs to improve aviation safety, address airport capacity issues, and enhance FAA safety activities. SET-381, 7/88; 196 p.

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Safer Skies With TCAS: Traffic Alert and Collision Avoidance System—Special Report. Assesses the ability of FAA, the airlines, and the aircraft and equipment manufacturers to comply with the TCAS II certification and installation deadlines established by law. SET-431, 2/89; 60 p.

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technology to improve teaching and learning. SET-379, 9/88; 260 p.

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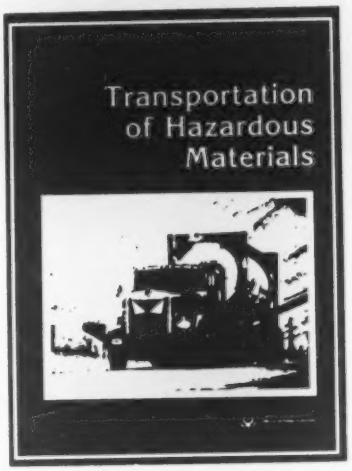

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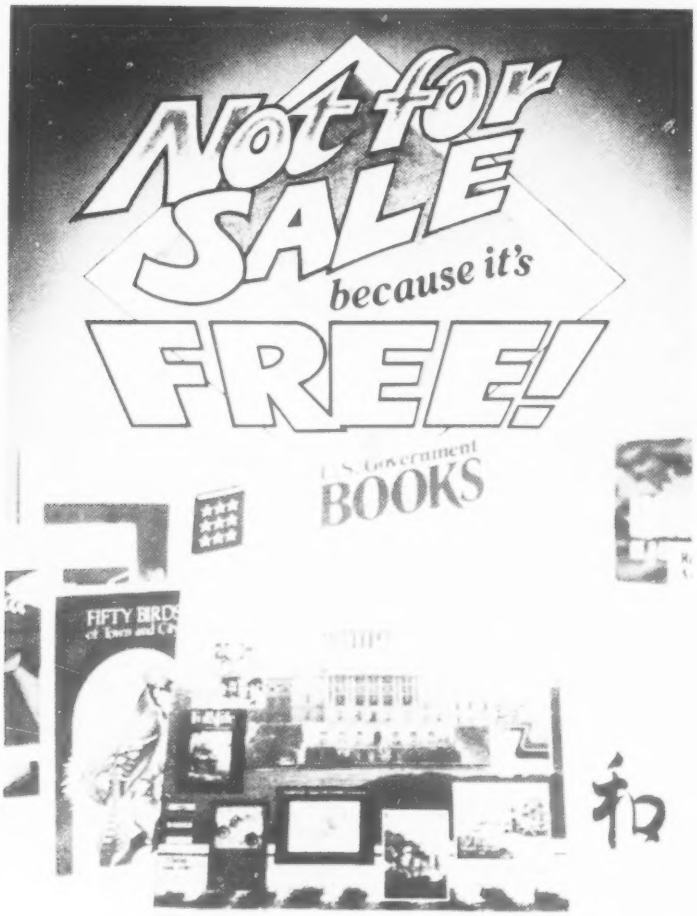

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Library of Congress Catalog Card Number 77-600064

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MARCH 1989